

ASIAS Portal Quick Reference Guide



**Federal Aviation
Administration**

ASIAS Homepage



Federal Aviation Administration
Office of Aviation Safety
Aviation Safety Information Analysis and Sharing (ASIAS)

Access to high level findings, studies, and reports



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Useful Links

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What's New at ASIAS

[NTSB Weather Related Accidents Study](#)

The number of weather-related accidents from 1994 to 2003 categorized into the following weather events: icing; thunderstorm; turbulence; visibility/ceiling; winds; windshear; precipitation; and other.

"What's New"
section contains the
latest information
and recent studies

About ASIAS

WELCOME TO THE AVIATION SAFETY INFORMATION ANALYSIS AND SHARING (ASIAS) SYSTEM

A facility for the integration, analysis and sharing of aviation safety data and information

The Federal Aviation Administration (FAA) promotes the open exchange of safety information in order to continuously improve the FAA's ability to prevent accidents. The FAA developed the Aviation Safety Information Analysis and Sharing (ASIAS) system. The ASIAS system enables users to search and analyze safety data, and display pertinent elements in an array of useful formats.

A phased approach continues to be followed in the construction of this system. Additional data sources and capabilities will be added to the system to provide expanded access to shared data and to technological innovation.

Access to the
databases and tools
alphabetically or by
subject

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Federal Aviation
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Studies and Reports



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[Aviation Safety Data Accessibility Study](#)

This study examines the issues related to increasing the accessibility of aviation safety data. The issues addressed include identification of safety data resources, format of safety data, analysis and interpretation of safety data, experiences of other Federal agencies with safety data, and public access to safety data.



[NTSB Helicopter Accident Study](#)

ASIAS study identifying helicopter accidents occurring between 1990 and 2000 in the NTSB database. Accidents are identified by category of operation, engine type, and type of operation. The study also identifies the top 15 NTSB causal factors by year for helicopter accidents.



[NTSB Weather Related Accidents](#)

The number of weather-related accidents from 1994 to 2003 categorized into the following weather events: icing; thunderstorm; turbulence; visibility/ceiling; winds; windshear; precipitation; and other.



[Review of Aviation Accidents Occurring in the State of Alaska, 1992-2001](#)

A detailed review of Part 91, 135, and 121 aviation accidents occurring in the state of Alaska between the years 1992 and 2001. The study examines operational factors such as phase of flight, type of aircraft, and meteorological conditions, as well as a breakout of the NTSB causal and contributing factors.



[Turbulence Study](#)

Weather Turbulence Study focusing on accidents that occurred from 1992 to 2001 in the United States. The study breaks out the Federal Aviation Regulation Operating Rules (Part 91, 121, etc.) for a detailed review including injuries, location, and type of turbulence.

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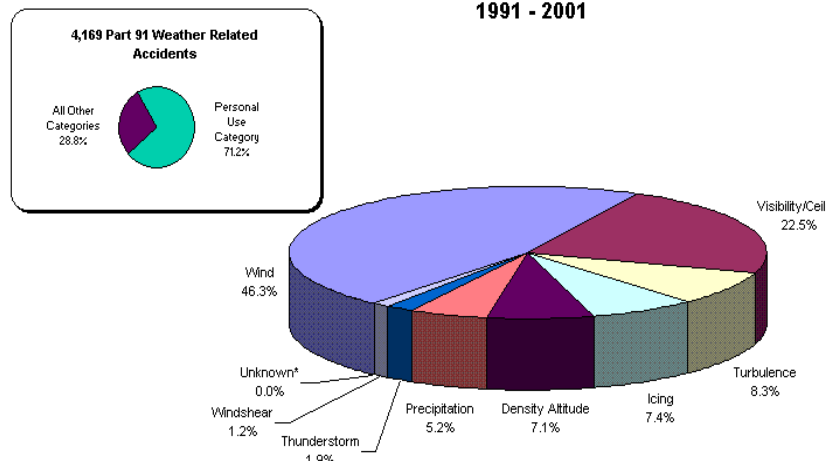
Date Updated: 19-APR-2007



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Studies and Reports

Distribution of NTSB Weather Related Findings in Part 91 Accidents by Personal Use Category 1991 - 2001



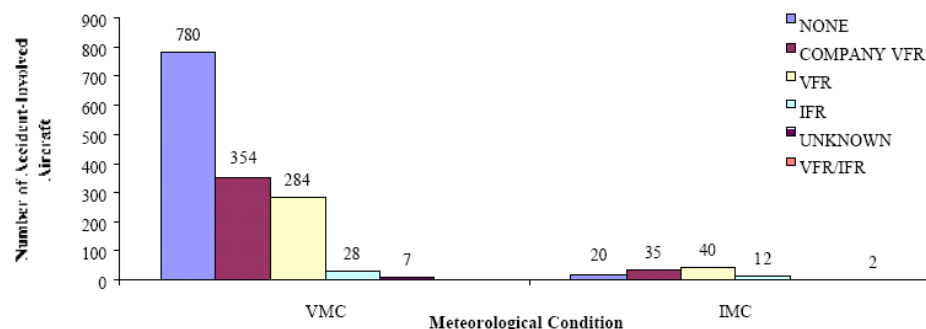
Between 1991 and 2001, there were 4,169 Part 91 weather related accidents. Of these, 2,970 accidents occurred during personal use operation. Of these, 2,970 accidents occurred during personal use operation. Please note, a single event may involve the 2,970 accidents, 4,199 weather conditions were identified.

*The actual percentage for this category is 0.02.

NTSB Weather- Related Accidents Study

Examples of ASIAs Studies

Chart 16: Alaska Accidents by Meteorological Condition and Flight Plan Filed



Flight Plan Filed	Part 91: General Aviation		Part 135: Air Taxi		Part 135: Commuter		Part 121: Air Carrier		All Other Operations		Total Accidents*
	VMC	IMC	VMC	IMC	VMC	IMC	VMC	IMC	VMC	IMC	
NONE	767	20	7	0	0	0	0	0	6	0	810
COMPANY VFR	144	4	159	21	31	9	2	0	18	1	392
VFR	200	23	50	7	19	10	2	0	13	0	330
IFR	5	3	3	2	2	4	14	1	4	2	42
UNKNOWN	3	0	0	0	1	0	1	0	2	0	10
VFR/IFR	0	2	0	0	0	0	0	0	0	0	2
Total	1,119	52	219	30	53	23	19	1	43	3	1,586

*Total Accidents include accident counts for those events where the meteorological condition was unknown.

Review of Aviation Accidents Occurring in the State of Alaska, 1992 - 2001



**Federal Aviation
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Databases Arranged by Subjects



Federal Aviation Administration
Office of Aviation Safety
Aviation Safety Information Analysis and Sharing (ASIAS)



Welcome Data & Information **Subjects** Studies

ASIAS Subjects of Interest

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 [Advisory Information](#)

 [Aircraft](#)

 [Aircraft Operators](#)

 [Incidents](#)

 [Voluntary Reporting System](#)

 [Statistical Data](#)



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Data and Information



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F-J

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P-Z

Contains alphabetical
listing of available
databases

Source Databases

(A-E)

[FAA Accident Incident Data System \(AIDS\)](#)

The Accident/Incident Data System (AIDS) database contains data records for general aviation and commercial air carrier incidents since 1978. The ASIAS database for AIDS contains incidents only because ASIAS uses the National Transportation Safety Board (NTSB) accident database as the primary source for accident information. The information contained in AIDS is gathered from several sources including incident reports on FAA Form 8020-5.

[Air Registry \(AR\)](#)

The FAA aircraft registry is a data system used to record and track civil aircraft registered in the United States. Registration occurs at the Federal Aviation Administration in Oklahoma City where the appropriate information is obtained and recorded from the aircraft purchaser. The database is updated in real time as the registry staff obtain and enter the data into the data system. The Registry maintains the permanent records of over 320,000 active civil aircraft and provides approximately 700 copies of aircraft records daily for review to users of the Public Documents Room located in the Registry Building at the Mike Monroney Aeronautical Center in Oklahoma City, Oklahoma.

[Aviation Safety Reporting System \(ASRS\)](#)

The Aviation Safety Reporting System (ASRS) receives, processes, and analyzes reports of unsafe occurrences and hazardous situations that are voluntarily submitted by pilots, air traffic controllers, and others. Information collected by the ASRS is used to identify hazards and safety discrepancies in the National Airspace System. It is also used to formulate policy and to strengthen the foundation of aviation human factors safety research.

[Bureau of Transportation Statistics \(BTS\)](#)

The Bureau of Transportation Statistics (BTS) database contains traffic and capacity statistics on individual Air Carrier operations. BTS is an administration under the Department of Transportation (DOT), at a similar organizational level as the FAA. During the 1970s, when the Civil Aeronautics Board (CAB) was disestablished, the CAB Bureau of Accounts and Statistics came to be what is now the BTS office of Airline Statistics.



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Using the Database Query Tools



Federal Aviation
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Database Information



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NTSB Accident and Incident Data System (NTSB)

System Information



[Learn About NTSB](#)



[Business Rules](#)



[Data Dictionary](#)



[Database Model](#)



[Data Load Information](#)

Information about the database
(e.g., origin, history)

Caveats about the data

Information about the
data fields (e.g., values)

Graphical display of
database tables and
relationships

Load date information.
Freeze Date = Date data was provided to
ASIAS by the data source.
Load Date = Date data was loaded in the
ASIAS system.

Data



[NTSB Data Query Tool](#)

Query search tools



Federal Aviation
Administration

Database Search

NTSB Database Search Form (Extranet)

National Transportation Safety Board Database System Query Form

? **Helpful query tips**

Click "Search" to process the query

Click on a field name to learn more about the field and associated values

Searches narrative fields for keywords or phrases. Utilizes boolean logic (e.g., AND, OR, NOT).

Standardized drop-down menus

Search Fields	
Narrative Text	turbulence and (thunderstorm or hail)
Event Id	
NTSB Report No	
Aircraft Registration Nbr	
Aircraft Serial Nbr	
Event Type	ACCIDENT
Local Date (Start) (DD-MMM-YY)	01-jan-03
Local Date (End) (DD-MMM-YY)	31-dec-07
State	
Airport Name	
Operation Type	PART 121: AIR CARRIER
Operation Category	PART 103: ULTRALIGHT
Operator Name	PART 121: AIR CARRIER
Aircraft Make Name	PART 125: 20+ PAX, 6000+ LBS
Aircraft Model Name	PART 129: FOREIGN
Aircraft Series	PART 133: ROTORCRAFT EXT. LOAD
Report Status	PART 135: AIR TAXI & COMMUTER
Flight Phase	PART 137: AGRICULTURAL
	PART 91: GENERAL AVIATION
	PART 91F: SPECIAL FLT OPS.
	PUBLIC USE
	UNKNOWN



Query Results

Brief Report For NTSB

SUBMITTED QUERY

QUERY = SELECT EVENT_ID, NTSB_RPRT_NBR, ACFT_REGIST_NBR, ACFT_SERIAL_NBR, EV_TYPE_DESC, EVENT_LCL_DATE, LOC_STATE_CODE STD, ARPT_NAME STD, FLTCONDCT_DESC, OPRTR_SCHED_DESC, OPRTR_NSDC_NAME STD, ACFT_NSDC_MAKE STD, ACFT_NSDC_MODEL STD, ACFT_NSDC_SERIES STD, REPORT_STATUS, INJURY_DESC, FLIGHT_PHASE_DESC FROM NTSB2_BRIEF_REPORT WHERE (EVENT_ID = '20061006X01478' AND EVENT_LCL_DATE >= '01-JAN-03' AND EVENT_LCL_DATE <= '31-DEC-07' AND FLTCONDCT_DESC = 'PART 121: AIR CARRIER' AND (CONTAINS(RPRT_NARR_FINAL_TEXT, 'TURBULENCE AND (THUNDERSTORM OR HAIL)' > 0 OR CONTAINS(RPRT_NARR_FAA_TEXT, 'TURBULENCE AND (THUNDERSTORM OR HAIL)' > 0) ORDER BY EVENT_LCL_DATE DESC

Displays the event count, aircraft count, and total report count

QUERY COUNTS

Total Aircraft Count: 13
Total NTSB Report Count: 63719
Total Event Count: 13

Displays checked reports in HTML for printing or saving

Query SQL Statement

Display Batched Briefs

Display in EXCEL

Reset Form

Brief Display	Event Id	Event Date	NTSB Report Number	Aircraft Registration Number	Event Type	State Code	Airport Name	Type of Operation	Category of Operation	
<input type="checkbox"/>	20061006X01478	16-SEP-06	NYC06LA223	N793SA	ACCIDENT	NE		PART 121: AIR CARRIER	SCHEDULED	SOU
<input type="checkbox"/>	20060508X00522	25-APR-06	DFW06LA115	N789AN	ACCIDENT	TX	DALLAS-FORT WORTH INTERNATIONAL	PART 121: AIR CARRIER	SCHEDULED	AME
<input type="checkbox"/>	20050620X00811	10-JUN-05	DEN05LA090	N302NB	ACCIDENT	NE		PART 121: AIR CARRIER	SCHEDULED	NOP
<input type="checkbox"/>	20050621X00819	29-APR-05	DFW05LA112	N727SW	ACCIDENT	AR		PART 121: AIR CARRIER	SCHEDULED	SOU
<input type="checkbox"/>	20040730X01113	17-JUL-04	NYC04LA168	N812AW	ACCIDENT	VA		PART 121: AIR CARRIER	SCHEDULED	AME
<input type="checkbox"/>	20040630X00887	04-JUN-04	CHS04LA118	N757LV	ACCIDENT	KS		PART 121: AIR CARRIER	SCHEDULED	SOU
<input type="checkbox"/>	20040601X00708	26-MAY-04	CHI04LA004	N757LV	ACCIDENT	MO	LAMBERT-ST LOUIS INTL	PART 121: AIR CARRIER	SCHEDULED	AME
<input type="checkbox"/>	20040305X00271	01-MAR-04	CHI04LA004	N757LV	ACCIDENT	WI		PART 121: AIR CARRIER	SCHEDULED	UNI

Click Event ID number to view report details



Federal Aviation Administration

Event Details

Occurrence #: 1

IN FLIGHT ENCOUNTER WITH WEATHER

Phase of Operation: CRUISE - NORMAL

Findings

Event Seq #	Event Group Code	Subject	Modifier	Personnel	Cause/Factor
1	1	WEATHER CONDITION	TURBULENCE		CAUSE

Search terms
highlighted in the
narrative fields.

AIRCRAFT 1 PRELIMINARY REPORT

On April 29, 2005, approximately 0731 central daylight time, a twin-turboprop Boeing 737-700 airplane, N727SW, operating as Southwest Airlines flight number 2440, was undamaged during an in-flight encounter with **turbulence** while in cruise flight at Flight Level 410 (41,000 feet mean sea level) near Little Rock, Arkansas. The airline transport rated captain, airline transport rated first officer, two of the three flight attendants, and 15 passengers were not injured. One flight attendant was seriously injured. The airplane was registered to and operated by Southwest Airlines, of Dallas, Texas. Visual meteorological conditions prevailed, and an instrument flight rules flight plan was filed for the scheduled passenger flight operating under 14 Code of Federal Regulations Part 121. The cross-country flight originated from the William P. Hobby Airport (HOU), near Houston, Texas, at 0637 and was destined for the Lambert-St. Louis International Airport (STL), near St. Louis, Missouri, where the flight landed without further incident. The 12,500-hour captain reported in the Pilot/Operator Aircraft Accident Report (NTSB Form 6120.1/2) that while in cruise flight at FL410 (41,000 feet msl), there was no **turbulence** and the flight was above an overcast cloud layer for most of the flight. The captain stated that visibility was limited at times due to a thin layer of haze. As a precaution, the captain kept the fasten seat belt sign on and instructed the flight attendants to take their seats if the flight became "bumpy." Several minutes later, the flight encountered a thin layer of haze. Upon exiting the layer of haze, the flight crew noticed "an unusual cloud formation" directly ahead. The captain initiated a right turn as the flight encountered "two abrupt bumps and a gain in air speed." The captain added that the encounter lasted about 15-20 seconds, which was light to moderate **turbulence**. Following the **turbulence** upset, the captain was notified by a cabin crew member that a flight attendant sustained a leg injury in the aft galley, and would need medical attention upon arrival at STL. A staff meteorologist for the Safety Board reviewed composite reflectivity images for the immediate area of the **turbulence** encounter. The satellite imagery at 1215Z indicated radiative cloud top temperature of 218.3 degrees Kelvin (K) or -54.86 degrees Celsius (C). The winds aloft at FL410 were reported from 280 degrees at 127 knots. Convective significant meteorological information (SIGMETs) were issued from 0955Z through 1255Z for **thunderstorm** activity. Convective SIGMET 18C issued at 1155Z was current for a portion of Arkansas and Oklahoma, enclosed from 10ENE TUL-40WSW ARG-20ENE LIT-20NE MLC-10ENE TUL. For an intensifying area of severe embedded thunderstorms moving from 260 degrees at 35 knots, with tops to 40,000 feet. **Hail** to 1 1/2 inches and wind gusts to 60 knots were possible with these storms. Severe to extreme **turbulence**, lightning, microburst, severe icing, and localized IFR conditions was implied with the issuance of the advisory. The provided coordinates of the **turbulence** upset was located outside and immediately east of the convective SIGMET in affect.

AIRCRAFT 1 FINAL REPORT

During cruise flight at FL410, the scheduled domestic passenger flight encountered moderate turbulence. The passengers were seated and the fasten seatbelt sign was illuminated. The flight attendants were instructed to take their seats "if it gets bumpy." During the turbulence encounter, a flight attendant was injured by a beverage cart. The flight continued to its intended destination and landed uneventfully.

